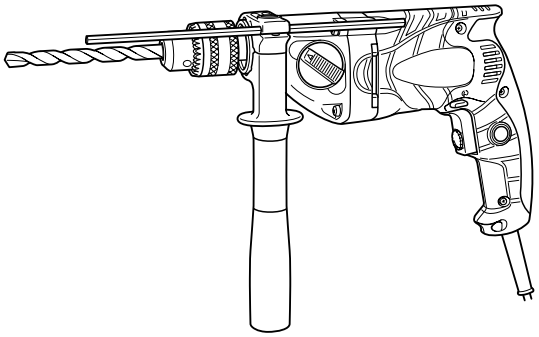
HITACHI

Drill
Model D 13VB3

Handling instructions



Note:
Before using this Electric Power Tool, carefully read through these HANDLING INSTRUCTIONS to ensure efficient, safe operation. It is recommended that these INSTRUCTIONS be kept readily available as an important reference when using this power tool.

Hitachi Koki

GENERAL SAFETY RULES

WARNING!

Read all instructions

Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

The term "power tool" in all of the warnings listed below refers to your mains operated (corded) power tool or battery operated (cordless) power tool.

SAVE THESE INSTRUCTIONS

1) Work area

a) Keep work area clean and well lit.
Cluttered and dark areas invite accidents.

b) Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.
Power tools create sparks which may ignite the dust of fumes.

c) Keep children and bystanders away while operating a power tool.
Distractions can cause you to lose control.

2) Electrical safety

a) Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.
Unmodified plugs and matching outlets will reduce risk of electric shock.

b) Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.
There is an increased risk of electric shock if your body is earthed or grounded.

c) Do not expose power tools to rain or wet conditions.
Water entering a power tool will increase the risk of electric shock.

d) Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.
Damaged or entangled cords increase the risk of electric shock.

e) When operating a power tool outdoors, use an extension cord suitable for outdoor use.
Use of a cord suitable for outdoor use reduces the risk of electric shock.

f) Recommendation for the use of residual current device with a rated residual current of 30mA or less.

3) Personal safety

a) Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.
A moment of inattention while operating power tools may result in serious personal injury.

b) Use safety equipment. Always wear eye protection.
Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

c) Avoid accidental starting. Ensure the switch is in the off position before plugging in.
Carrying power tools with your finger on the switch or plugging in power tools that have the switch on invites accidents.

d) Remove any adjusting key or wrench before turning the power tool on.
A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

e) Do not overreach. Keep proper footing and balance at all times.
This enables better control of the power tool in unexpected situations.

f) Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.
Loose clothes, jewellery or long hair can be caught in moving parts.

g) If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.
Use of these devices can reduce dust related hazards.

4) Power tool use and care

a) Do not force the power tool. Use the correct power tool for your application.
The correct power tool will do the job better and safer at the rate for which it was designed.

b) Do not use the power tool if the switch does not turn it on and off.
Any power tool that cannot be controlled with the switch is dangerous and must be repaired.

c) Disconnect the plug from the power source before making any adjustments, changing accessories, or storing power tools.
Such preventive safety measures reduce the risk of starting the power tool accidentally.

d) Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.
Power tools are dangerous in the hands of untrained users.

e) Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tools operation.
If damaged, have the power tool repaired before use.
Many accidents are caused by poorly maintained power tools.

f) Keep cutting tools sharp and clean.
Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

g) Use the power tool, accessories and tool bits etc., in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed.
Use of the power tool for operations different from intended could result in a hazardous situation.

5) Service

a) Have your power tool serviced by a qualified repair person using only identical replacement parts.
This will ensure that the safety of the power tool is maintained.

PRECAUTION
Keep children and infirm persons away.
When not in use, tools should be stored out of reach of children and infirm persons.

PRECAUTIONS ON USING DRILL

1. **Wear ear protectors with impact drills.**
   Exposure to noise can cause hearing loss.
2. **Use auxiliary handles supplied with the tool.**
   Loss of control can cause personal injury.
3. Before drilling into walls, ceilings or floors, ensure that there are no concealed power cables inside.
4. Do not wear gloves made of stuff liable to roll up such as cotton, wool, cloth or string, etc.

SPECIFICATIONS

Voltage (by areas)*		(110 V, 220 V, 230 V, 240 V) ∿	
Power input		790 W*	
Speed change		1	2
No load speed	Forward rotation	0 – 1000/min	0 – 3000/min
	Reverse rotation	0 – 600/min	0 – 1800/min
Capacity	Steel	13 mm	8 mm
	Wood	40 mm	25 mm
Weight (without cord)		2.0 kg	

STANDARD ACCESSORIES

(1) Chuck Wrench (Spec. only for keyed chuck) 1
(2) Side Handle 1
(3) Depth Gauge 1
Standard accessories are subject to change without notice.

APPLICATIONS

○ Boring holes in metal, wood and plastic.

PRIOR TO OPERATION

1. **Power source**
   Ensure that the power source to be utilized conforms to the power requirements specified on the product nameplate.
2. **Power switch**
   Ensure that the power switch is in the OFF position. If the plug is connected to a receptacle while the power switch is in the ON position, the power tool will start operating immediately, inviting serious accident.
3. **Extension cord**
   When the work area is removed from the power source, use an extension cord of sufficient thickness and rated capacity. The extension cord should be kept as short as practicable.
4. **Selecting the appropriate drill bit**

○ When boring metal or plastic
Use an ordinary metalworking drill bit.
○ When boring wood
Use an ordinary woodworking drill bit.
However, when drilling 6.5 mm or smaller holes, use a metalworking drill bit.

5. **Mounting and dismounting of the bit.**

For keyed chuck **(Fig. 1)**

(1) Open the chuck jaws, and insert the bit into the chuck.
(2) Place the chuck wrench in each of the three holes in the chuck, and turn it in the clockwise direction (viewed from the front side). Tighten securely.
(3) To remove the bit, place the chuck wrench into one of the holes in the chuck and turn it in the counterclockwise direction.

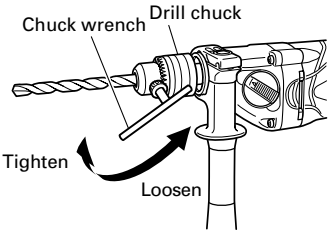


Fig. 1

For keyless chuck **(Fig. 2)**

(1) Mounting the bit
Turn the sleeve counterclockwise and open the chuck. After inserting the drill bit into the chuck as far it will go, grip the ring and close the chuck by turning the sleeve clockwise as viewed from the front.
(2) Dismounting the bit
Grip the ring and open the chuck by turning the sleeve counterclockwise.

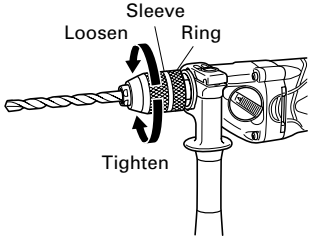


Fig. 2

NOTE

When the sleeve does not become loose any further, fix the side handle to ring, hold side handle firmly, then turn the sleeve to loosen by hand (**Fig. 3**).

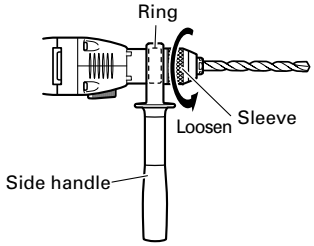


Fig. 3

6. **Check the rotational direction (Fig. 4)**

The bit rotates clockwise (viewed from the rear side) by pushing the R-side of the push button.
The L-side of the push button is pushed to turn the bit counterclockwise.
(The Ⓛ and Ⓡ marks are provided on the body.)

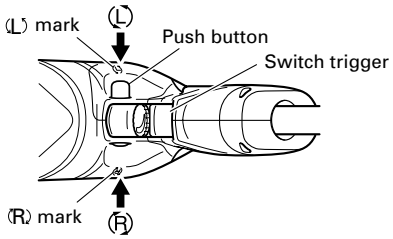


Fig. 4

7. **Fixing the side handle (Fig. 5)**

Attach the side handle to the mounting part.
Rotate the side handle grip in a clockwise direction to secure it.
Set the side handle to a position that is suited to the operation and then securely tighten the side handle grip.

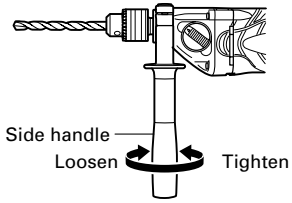


Fig. 5

To attach a depth gauge on the side handle, insert the gauge into the U-shaped groove on the side handle, adjust the position of the depth gauge in accordance with the desired depth of the hole, and firmly tighten the side handle grip (**Fig. 6**).

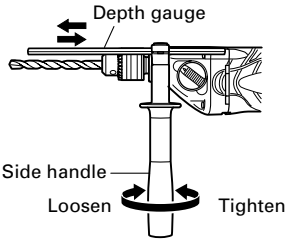


Fig. 6

8. **High-speed/Low-speed changeover**

Prior to changing speed, ensure that the switch is in the OFF position, and the drill has come to a complete stop.
To change speed, rotate the gear shift dial as indicated by the arrow in **Fig. 7**. The numeral "1" engraved on the drill body denotes low speed, the numeral "2" denotes high speed.
If it is hard to turn the gear shift dial, turn the chuck slightly in either direction and then turn the gear shift dial again.

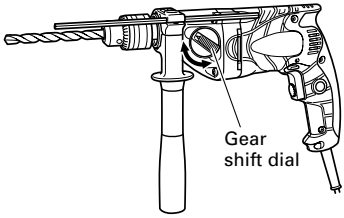


Fig. 7

HOW TO USE

1. **Switch operation**

○ When the trigger is depressed, the tool rotates. When the trigger is released, the tool stops.
○ The rotational speed of the drill can be controlled by varying the amount that the trigger switch is pulled. Speed is low when the trigger switch is pulled slightly and increases as the trigger switch is pulled more.
○ The desired rotation speed can be pre-selected with the speed control dial.
Turn the speed control dial clockwise for higher speed and counterclockwise for lower speed (**Fig. 8**).
○ Pulling the trigger and pushing the stopper, it keeps the switched-on condition which is convenient for continuous running. When switching off, the stopper can be disconnected by pulling the trigger again.

CAUTION

If the L-side of push button is pressed for reverse bit rotation, the stopper cannot be used.

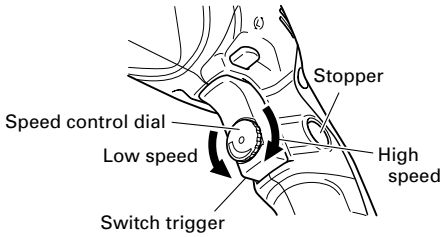


Fig. 8

2. Drilling

- When drilling, start the drill slowly, and gradually increasing speed as you drill.
- Always apply pressure in a straight line with the bit. Use enough pressure to keep drilling, but do not push hard enough to stall the motor or deflect the bit.
- To minimize stalling or breaking through the material, reduce pressure on drill and ease the bit through the last part of the hole.
- If the drill stalls, release the trigger immediately, remove the bit from the work and start again. Do not click the trigger on and off in an attempt to start a stalled drill. This can damage the drill.
- The larger the drill bit diameter, the larger the reactive force on your arm.
  Be careful not to lose control of the drill because of this reactive force.
  To maintain firm control, establish a good foothold, use side handle, hold the drill tightly with both hands, and ensure that the drill is vertical to the material being drilled.

Slip clutch mechanism

This unit contains a slip clutch that causes the gears between the motor and drill bit to slip when an excessive load is suddenly applied. The slip clutch protects the unit from a large violent reaction the load might cause.

CAUTION

- If the slip clutch triggers and stops the drill bit rotation, quickly turn off the power switch.
- Do not operate the unit in a way that frequently triggers the slip clutch.

MAINTENANCE AND INSPECTION

1. Inspecting the drill bits
Since use of an abraded drill bits will cause motor malfunctioning and degraded efficiency, replace the drill bits with a new one or resharpening without delay when abrasion is noted.

2. Inspecting the mounting screws
Regularly inspect all mounting screws and ensure that they are properly tightened. Should any of the screws be loose, retighten them immediately. Failure to do so could result in serious hazard.

3. Maintenance of the motor
The motor unit winding is the very “heart” of the power tool. Exercise due care to ensure the winding does not become damaged and/or wet with oil or water.

4. Inspecting the carbon brushes
For your continued safety and electrical shock protection, carbon brush inspection and replacement on this tool should ONLY be performed by a Hitachi Authorized Service Center.

5. Replacing supply cord
If the supply cord of Tool is damaged, the Tool must be returned to Hitachi Authorized Service Center for the cord to be replaced.

6. Service parts list

CAUTION

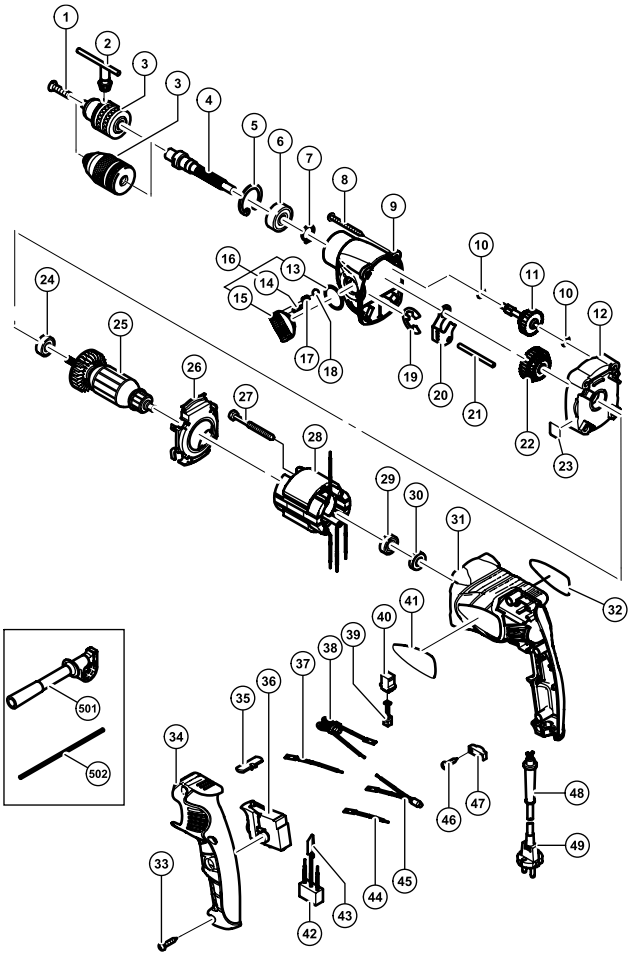
Repair, modification and inspection of Hitachi Power Tools must be carried out by a Hitachi Authorized Service Center.
This Parts List will be helpful if presented with the tool to the Hitachi Authorized Service Center when requesting repair or other maintenance.
In the operation and maintenance of power tools, the safety regulations and standards prescribed in each country must be observed.

MODIFICATION

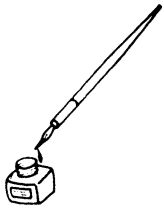
Hitachi Power Tools are constantly being improved and modified to incorporate the latest technological advancements.
Accordingly, some parts may be changed without prior notice.

NOTE

Due to HITACHI’s continuing program of research and development, the specifications herein are subject to change without prior notice.



Item No.	Part Name
1	FLAT HD. SCREW (A) (LEFT HAND) M6X25
2	CHUCK WRENCH
3	DRILL CHUCK
4	SPINDLE (E)
5	RETAINING RING FOR D35 HOLE
6	BALL BEARING 6202DDCMPS2L
7	RETAINING RING FOR D15 SHAFT
8	TAPPING SCREW (W/FLANGE) D5X45
9	GEAR COVER (A)
10	WASHER (B)
11	SECOND PINION (B)
12	INNER COVER
13	O-RING (S-22)
14	SHIFT PIN
15	SHIFT LEVER
16	SHIFT LEVER ASS'Y
17	SPRING (H)
18	STEEL BALL D3.5
19	RETAINING RING (E-TYPE) FOR D15 SHAFT
20	SHIFT ARM
21	PIN D5
22	GEAR SET
23	LABEL (SLIP CLUTCH)
24	BALL BEARING 629C2
25	ARMATURE
26	FAN GUIDE
27	HEX. HD. TAPPING SCREW D4X45
28	STATOR
29	BALL BEARING 698T1XZZ1MC2E NS7L
30	RUBBER BUSHING
31	HOUSING
32	NAMEPLATE
33	TAPPING SCREW (W/FLANGE) D4X20
34	HANDLE COVER
35	PUSHING BUTTON
36	SWITCH
37	INTERNAL WIRE (BROWN) 100L
38	CHOKE COIL (BROWN)
39	CARBON BRUSH
40	BRUSH HOLDER
41	HITACHI LABEL
42	NOIS SUPPRESSOR
43	EARTH TERMINAL
44	INTERNAL WIRE (BLUE) 55L
45	CHOKE COIL (BLUE)
46	TAPPING SCREW (W/FLANGE) D4X16
47	CORD CLIP
48	CORD ARMOR
49	CORD
501	SIDE HANDLE
502	DEPTH GAUGE



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